

Work Order ID 155129

155129

Page 1

Monday, January 09, 2017 11:27:24 AM

Item ID: D350-604-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-567 Stop ***NS2***
Item Name: Rear Locker Extender
Start Date: 3/31/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 5/1/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: DAS 21 Date: JAN 12 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 9-89 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D2273	L U/R M <u>17/01/12</u>								
D350-604-041	C U/R <u>17/01/12</u>								
100	Document Control	0.00							
100	DOCUMENT CONTROL								

DC
Doc.Control -USB or Paperwork
Memo
Photocopy bluefile and create labels per PPP D350-604-041
CHG009 CHG010 see attachment
MAY 08 2017
MAY 16 2017

110	PURCHASING	0.00							
110									

Purchasing
Purchasing
Memo
Issue P/O: 34972
Description: D350-604-041 Rear locker extender.
Manufacture as per dwg D2273
Supplier: FDC Composites Inc.
Certification of Conformity and process sheet required.

EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

Work Order ID 155129***155129***

Page 2

Monday, January 09, 2017 11:27:25 AM

Item ID: D350-604-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: URF 16-567 Stop ***NS2***
Item Name: Rear Locker Extender
Start Date: 3/31/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 5/1/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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120

120

Packaging

Packaging

Receive & Inspect for Damage & Mat'l Certs
Packaging**Memo**

Ensure a copy of Certification of Conformity and process sheet from Carbon-by-Design is attached.

DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM

0.00

0.00

1x 8/17/15-4

130

130

QC

Quality Control

QC6- Inspect dimensions to drawing

Memo

Check hole locations to template. DT 8824 Check process sheet and audit.

0.00

0.00

D 17.05.05DAS
9
9-89

140

140

Small Fab

Small Fab

Memo

1- INSTALL DECALS AS PER DWG

0.00

0.05

DAS
28
9-89 MAY 1st 2017

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

155129

Page 3

N900040100

Setup	Start	*NS1*
	Stop	*NS2*

Start Date: 3/31/2017	Start Qty: 1.00	*1*
Required Date: 5/1/2017	Req'd Qty: 1.00	*1*

Cust Item ID:
Customer:

Run	Start	*NR1*
	Stop	*NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

[illegible]

MAY 16 2017

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By 		
							Lead hand / Supervisor Approval Verification 		
							QC / QA Coordinator Approval 		

Root Cause				FAULT CATEGORY			
Environment ☐	☐	No Re-verification ☐	☐	Pressure/Forced ☐	☐	Temperature/Cure ☐	☐
Design ☐	☐	Operator ☐	☐	Bending ☐	☐	Set-up ☐	☐
Doc/Data ☐	☐	Offset/Setup ☐	☐	Centre Not Concentric ☐	☐	BOM/Route ☐	☐
Equip/Tooling ☐	☐	Supplier ☐	☐	Cracks ☐	☐	Broken/Damage/Defect ☐	☐
Handling/Pre ☐	☐	Training ☐	☐	Crimp/Kink/Ripple/Wave ☐	☐	Inspection Incomplete/Unqualified ☐	☐
Material ☐	☐	Use for Testing ☐	☐	Cuffs ☐	☐	Contamination ☐	☐
Internal Transport ☐	☐	Poor Information ☐	☐	Crushing ☐	☐	Countersink ☐	☐
Tribal Knowledge ☐	☐	Rushing ☐	☐	Heat Treat ☐	☐	Cut Too Short ☐	☐
LOA ☐	☐	Product Improvement ☐	☐	Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear ☐	☐
Substation ☐	☐	Process Improvement ☐	☐	Marks/Chatter ☐	☐	Drill Holes ☐	☐
Past Expiry Date ☐	☐	Manufacturing Process ☐	☐	OTHER : _____			
Misidentified ☐	☐	Past Due ☐	☐				

Work Order ID 155129

Monday, January 09, 2017 11:27:25 AM

155129

Page 4

Item ID: D350-604-041
Revision ID: URF 16-567
Item Name: Rear Locker Extender

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Start Date: 3/31/2017 Start Qty: 1.00 ***1***
Required Date: 5/1/2017 Req'd Qty: 1.00 ***1***

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Packaging	0.00							
160									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-604-041								
	Location: _____								
	PPP Rev: _____								
	<i>fg 106</i>								
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.02							
Quality Control									

DAS
27
9-89

DAS
28
9-89

MAY 16 2017

DAS
21
9-89

MAY 16 2017

17/5/17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

Monday, January 09, 2017 11:27:28 AM

155129

D350-604-041

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D350-604-041P		Purchased		No		110	Each	0.0000	1	1			
D350-604-041P													
Rear Locker Extender													
D2268		Manufactured		No		140	Each	13.0000	1	1			
D2268													
Placard													
					<u>Location</u>	<u>Loc Qty</u>		<u>Loc Code</u>					
					ST006	13							
					147069	7		6/13/2017					
					148553	6		7/22/2017					
D2728-1		Manufactured		Yes		140	Each	-1.0000	1	1			
D2728-1													
Dart Logo Label Small													
D2269		Manufactured		No		155	Each	8.0000	1	1			
D2269													
Placard													
					<u>Location</u>	<u>Loc Qty</u>		<u>Loc Code</u>					
					ST006	8							
					147070	2		6/13/2017					
					148588	6		7/22/2017					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

Picklist Print

Monday, January 09, 2017 11:27:28 AM

Work Order ID: 155129

155129

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 3/31/2017

Required Date: 5/1/2017

Start Qty: 1.00

Required Qty: 1.00

D5062-041

Manufactured No

155 Each

16.0000 1 1

D5062-041

Bracket Assembly

MAY 08 2017

DAS
28
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

ST147

16

145920

16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

TABLE 1

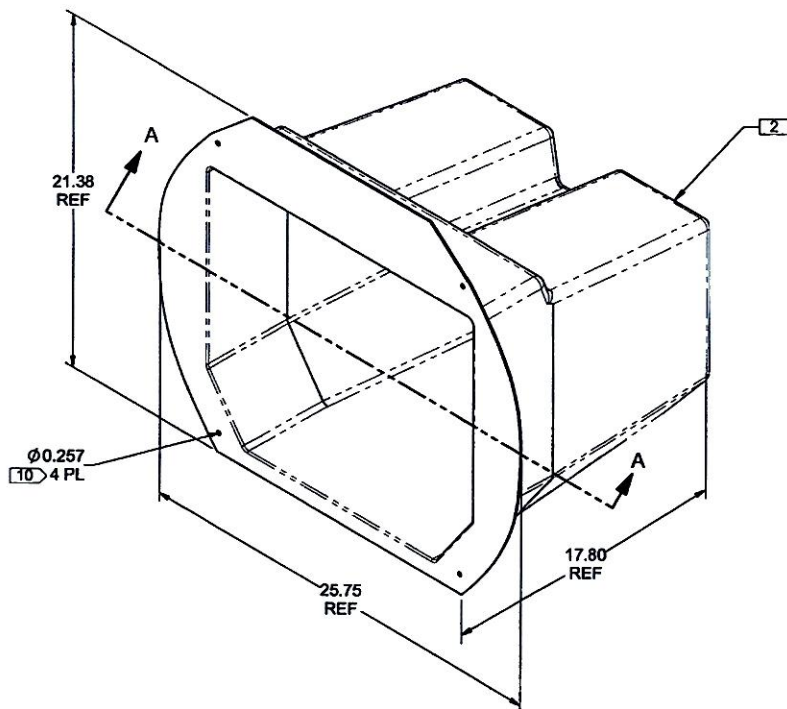
POSITION	MATERIALS
1	TOOL SURFACE
2	GELCOAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

TABLE 2

POSITION	MATERIALS
1	TOOL SURFACE
2	GELCOAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	7725 FIBER GLASS
8	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

NOTES:

- 1) MATERIAL: SEE TABLE 3
 2) FINISH: SEE TABLES 1, 2, & 3
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
 7) WEIGHT: 5.5- 7.5 lbs
 8) LAMINATE PER DART QSI 006. LAMINATION SCHEDULE PER THIS DRAWING
 9) LAYUP USING DT9871 MOLD. WET LAYUP WITH BAG/VACUUM
 10) TRIM & DRILL PER DT9905. OPEN HOLES TO Ø0.257
 11) CONSTRUCTION: SEE TABLES 1 & 2
 12) MATTE TO HOLD DOWN CORNERS AS REQUIRED



D2273 REAR LOCKER EXTENDER

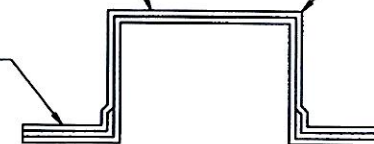
TABLE 3

MATERIAL USED	DESCRIPTION
GELCOAT	55X3535 WHITE GELCOAT
FIBER GLASS MAT	OWENS CORNING 3/4 oz CHOPPED STRAND MAT
FIBER GLASS CLOTH	HEXCEL 7725 FIBER GLASS
RESIN SYSTEM	DION 7704
PRIMER	TEMPO 4500-PB-23G (GREEN)

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 155129 MLJ
 1701-12

SEE TABLE 1

SEE TABLE 2



SECTION A-A

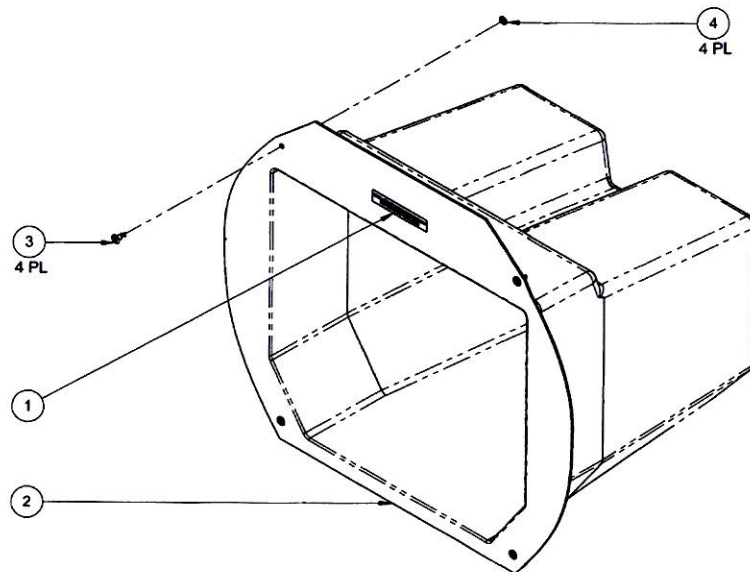
M	CHANGE GELCOAT TO 55X3535 WHITE GELCOAT, REMOVE PAINT FINISH OPTION (NOTE 2)	DB	16.05.19
L	ADD PAINT OPTION (NCR 15-5408)	CP	15.10.19
K	LAYUP AND MATL PER FDC COMPOSITES PROCESS	CP	15.03.12
J	CHANGED GELCOAT TO 4314-001 DURA FR WHITE	ML	13.12.10
I	CHANGE GELCOAT TO POLYCOR 2330PAWK745	SFM	13.08.13
H	CHANGE MATERIAL & MANUFACTURING PROCESS	DC	13.03.15
G	ADD MANUFACTURING OPTION B, ZN BS-1	DC	12.08.08
F	PRIMER LE 3404-S/LE 1175-S WAS 1144-S, ZN A8-1	DC	12.02.27
E	CHANGED SURFACE FINISH FROM 944W005 GELCOAT TO 2330PAWK745 GELCOAT, ZN A7-1. UPDATED DWG TO CURRENT STANDARDS.	DC	12.02.02
D	REMOVE EPOCAST, ADD SURFACE FINISH	CP	02.04.01
C	CLARIFY MATERIAL, LAYUP, AND TOOLING	RF	02.01.30
B	RE-DRAWN	MM	96.05.27
REV.	DESCRIPTION	BY	DATE

DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D2273 REV. M SHEET 1 OF 1 SCALE 350 REAR LOCKER EXTENDER NTS COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	
DRAWN	DB		
CHECKED	ML		
MFG. APPR.	DD		
APPROVED	WM	TITLE	
DE APPR.	DS		
DATE	16.05.19		

RELEASED
 2017-01-11
 ECU 17-501

APPROVED

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
	X	D350-604-041	REAR LOCKER EXTENDER ASSEMBLY
1	1	D2268	PLACARD
2	1	D2273	REAR LOCKER EXTENDER
3	4	2600-6	CAMLOCK STUD
4	4	2600-LW	RETAINING WASHER



D350-604-041 REAR LOCKER EXTENDER ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 5.5 to 7.5 lbs
- 8) INSTALL D2268 PLACARD IN LOCATION SHOWN, CENTERED ON FLANGE

C	REMOVE D2728-1, D2729-1 DECALS (ZN C5-1) REVISED RELATED NOTES, UPDATED PART WEIGHT	ML	13.12.16
B	INCORPORATE DSI 9470 (ZN D7-1), UPDATE DWG TO CURRENT STANDARDS, ADD D2728-1 PLACARD AND ORIENTATION NOTE (ZN C3-1), ADD D2729-1 (ZN C5-1).	DC	12.02.07
A	NEW ISSUE	CP	02.04.01
REV.	DESCRIPTION	BY	DATE
DESIGN	DW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D350-604-041 REV. C SHEET 1 OF 1 TITLE RLE ASSY SCALE NTS COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	ML		
CHECKED	AP		
MFG. APPR.	JLM		
APPROVED	MP		
DE APPR.	DS	DATE 14.01.02	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO34972**

Purchase Order Date 1/17/2017

PO Print Date 1/31/2017

Page Number 1 of 3

Order From : VC-FDC01
FDC COMPOSITES INC.
45 CHEMIN DE L'AEROPORT
LOCAL 26
ST-JEAN-SUR-RICHELIEU, QUEBEC J3B 7B5

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED

Contact Name
Vendor Phone 450-357-1344 ext303

Ship To Contact
Ship To Phone
Ship Via: Journey Freight collect
Ship Acct:

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D350-604-041P PO REVISED AS PER QUOTE # 1199 AS PER DWG D2273 REV. M / D350-604-041 REV. C B155127 PLEASE NOTE REARLOCKER UNDER NEW REV. M	Rear Locker Extender	5/1/2017 Yes 5/1/2017		1.00 Each	\$705.00	\$705.00
Line Total:							\$705.00
2	D350-604-041P AS PER DWG D2273 REV. M / D350-604-041 REV. C B155129 PLEASE NOTE REARLOCKER UNDER NEW REV. M	Rear Locker Extender	5/1/2017 Yes 5/1/2017		1.00 Each	\$705.00	\$705.00
Line Total:							\$705.00

PO Instructions: NOTE: NO BILLING PRIOR TO SHIPPING,

Note:

1/31/2017

FDC Composites inc.
45, Chemin de L'Aéroport
Local 26
Saint-Jean-sur-Richelieu (QC)
J3B 7B5
Tel. : 450 357-1344

Shipping Order

01/05/2017

Order : 2623
Reference : PO 34972/1-5

Customer: Dart

DART AEROSPACE
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7

Ship To
DART AEROSPACE LTD.
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7
Tel.: 1 613 632-9577

Item No.	Description	Qty	Qty. Delivere	B/O Qty
D350-604-041P	REAR LOCKER EXTENDER PO item: 34972/1 FDC ID : DAE001-107 LOT : 2017-02-21 As per DWG.D2273 Rev. M B155127	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 34972/2 FDC ID : DAE001-109 LOT : 2017-02-21 As per DWG.D2273 Rev. M B155129	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 34972/3 FDC ID : DAE001-114 LOT : 2017-02-23 As per DWG.D2273 Rev. M B155130	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 34972/4 FDC ID : DAE001-124 LOT : 2017-03-01 As per DWG.D2273 Rev. M B155131	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 34972/5 FDC ID : DAE001-133 LOT : 2017-03-07 As per DWG.D2273 Rev. M B155132	1	_____	_____

Shipping : _____
Package No : _____
Merchandise Received: _____

Ref. : _____



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CERTIFICATE of CONFORMITY

Customer Name: Dart Aerospace.

Customer P/O Number: 34972

Rev. NC

DAS
9
9-89

<u>PO Item</u>	<u>Qty</u>	<u>Part number</u>	<u>Dwg number</u>	<u>Description</u>	<u>Dart ID</u>	<u>FDC ID</u>	<u>Lot</u>
1	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155127	DAE001-107	2017-02-21
2	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155129	DAE001-109	2017-02-21
3	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155130	DAE001-114	2017-02-23
4	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155131	DAE001-124	2017-03-01
5	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155132	DAE001-133	2017-03-07

I hereby certify that the workmanship, material and the processes used in the manufacture of the above part(s) supplied are in accordance with the requirements of the applicable Purchase Order.

Signature:

Marjorie G
Marjorie Geoffrion, Quality Inspector

Date: 2017-05-01



Gamme de Fabrication

# LOT	2017-02-21
# SÉRIE(ID)	DAE001-109

Nom de Gamme :	Rear locker extender – DART
# de Gamme (et rev.) :	DAE001 Rev. D
Nom pièce – Client :	350 Rear locker extender – DART AEROSPACE
# de Dessins (et rev.) :	D2273 Rev. J

ID: B155129

Fiche suiveuse

PLAGE (ÉTAPES)	DÉPARTEMENTS	DESCRIPTION GÉNÉRALE	DATE(HR) SORTIE
[10-60]	Préparation	Moule, Espace de travail, Matière premières, Consommables	#23 09 FEV 2017
[70-90]	Finition/Peinture	Appliquer Gel coat, Inspecter	#3 21 FEV 2017
[100-150]	Laminage	Laminer, Démouler, Inspecter	#26 #23 21 FEV 2017
[160-200]	Usinage	Percer, Découper, Ébavurer, Inspecter, Sabler	#30 9 MAR 2017
[210-230]	Finition/Peinture	Primer, Inspection	#3 MARS 28 MAR 2017
240	Expédition	Emballer, Expédier	#8 1 MAI 2017

Gamme préparé par :

Guillaume G.Jasmin

Gamme révisée par :

Francis Lavigne-Larente

Gamme vérifiée par
(Chefs d'équipe) :

Maxime Gagné

Gamme approuvée par :

Maxime Gagné

Date d'émission :

2015-01-14

#8

1 MAI 2017

Approbation Qualité

Avant de produire le CofC, toutes les étapes et les informations requises des gammes subséquentes reliées à ce produit ont été complétées et remplies



Informations à remplir :

Cases grises pâles

Inspection :

Cases grises foncées

Matières premières

Matière première (Part Number)	Quantité	Date d'approvisionnement	Spécification et/ou Référence
Résine	102 8612	2017-06-17	Dion 7704
Norox (Résine)	41049	2017-08-01	MEKP-9
Norox (Gel coat)	41049	2017-08-01	MEKP-9
Gel coat blanc	702 284	2017-03-20	Polycor 2330PAWK745
Mat ¾ oz/pi²	15011-00174-1	N/A	¾ oz Chopped Strand Mat (Owens Corning Or Equivalent)
Fibre de verre 7725	2004874	N/A	Hexcel 7725 Fiber Glass
Noyau DIAB F40 1/8po	DM 7A	N/A	, 1/8 thick
Apprêt (Primer) (Vert)	18316	2018-05-01	Tempo 4500-PB-23G (Vert)
Durcisseur pour apprêt (hardener)	18317	2018-05-01	Tempo 4500-C-23
Attache mécanique (Camloc)	508 980	N/A	2600-5
Rondelle de retenue pour Camloc	1674905	N/A	2600-LW

Équipement	Matériel auxiliaire	Santé et sécurité
Moule : MOU306 ou MOU309	FMS	Sarrau
Pompe à vide	55NC	Lunettes de sécurité
Jig de découpe et perçage : GAB350	Peel ply	Soulier de protection
Jig de finition et d'inspection : GAB355	Film perforé	Gants
Conformateurs : GAB356 à GAB364 (Qte 9)	Bleeder breather	Masques à cartouches
Pince pour installer Camloc : OUT951	Bag big blue	
Outil pour installer rondelle de retenue : OUT952	Ruban scellant (Dum Dum)	

Annexe 1
Formulaire de résine (RES-DAR001)

MPS-300-93-31-007-NC	Démoulage 55NC
MPS-300-93-31-058-A	Composite part inspection
MPS-300-93-31-020-B	Edge finish after trimming
MPS-300-93-31-097-NC	Epoxy - Polyamide primer
MPS-300-93-31-084-NC	Protection et entreposage des pièces

Suivi des révisions

# de révision	Contenu (Description) de la révision	Date de révision	Révisé par
A	Révision d'une OP inspection, Ajout nouveaux moules et retrait d'un type de primer	2015-03-04	Guillaume G.Jasmin
B	Ajout des conformateurs, du gabarit GAB355, de l'installation des camlocs, inspection du poids et identification finale	2015-03-25	Guillaume G.Jasmin
C	Mise à jour de la case approbation qualité page 1	2015-04-02	Guillaume G.Jasmin
D	Ajout du noyau sur le contour de la pièce	2015-09-28	Philippe Paquette-B.

Opération	Description	Référence, outils et équipements	Date et Initials
<u>Section A : PRÉPARATION</u>			
10	<u>Remplir les informations requises sur la première page (cases grises pâles)</u> - Demander au coordonnateur de production (ID) - Inscrire les heures et les dates d'entrée et de sortie de département		#23 09 FEV. 2017
20	<u>Découper la fibre et les périssables (Peel ply, sac étanche...) selon l'ANNEXE 1</u> - ACHEMINER et REMPLIR la section « Matière premières » pour : - Fibre de verre 7725 - Mat ¾ oz	Annexe 1	#23 09 FEV. 2017
30	<u>Découper les noyaux selon l'ANNEXE 1</u> - ACHEMINER et REMPLIR la section « Matière premières » pour : - Noyau DIAB F40 1/8po	Annexe 1	NA
40	<u>Préparer la résine selon RES-DAR001 (Gamme de formulation de résine)</u> ACHEMINER et REMPLIR la section « Matière premières » pour : - Résine - Norox	RES-DAR001	#28 21 FEV. 2017
50	PRÉPARER le moule - Cochez le moule utilisé : MOU306 ☐ , MOU309 ☒ ☒ Nettoyer et traiter le moule ☒ Poser le Masking tape <u>Si nécessaire, traiter le moule au 55NC</u> Faire le test de pelage, s'il ne passe pas, appliquer une couche de 55NC et refaire le test.	Annexe 1 MOU306 ou MOU309 MPS-300-93-31-007	#19 21 FEV. 2017

60	PRÉPARER l'espace de travail (pendant l'application du gel coat)			#23 21 FEB 2017 #19 21 FEB. 2017	
	☐ Vérifier et préparer la pompe ☐ Préparer et distribuer les outils ☐ Protéger l'environnement de travail (tables, plancher, etc.) ☐ Vêtir l'équipement de protection personnel ☐ Partir la ventilation ☐ Vérifier l'ordre et la présence de tous les plis de fibre et des morceaux de noyau dans le sac				
	Position	Matériel			Initial employé
	10F	¾ oz Chopped strand MAT			mf M.C.
	20F	7725 Fibre de verre			mf M.C.
	30F	7725 Fibre de verre			mf M.C.
	40R	7725 Fibre de verre			mf M.C.
	50C	Noyau DIAB F40 1/8po			mf M.C.
	60R	7725 Fibre de verre			mf M.C.
	70R	7725 Fibre de verre			mf M.C.
80F	7725 Fibre de verre	mf M.C.			

Section B : APPLICATION GEL COAT

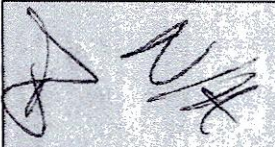
70	(GEL COAT) : ACHEMINER et REMPLIR la section « Matière premières » pour : Gel coat		#28 21 FEB. 2017		
80	APPLIQUER le Gel coat (18 - 22 mils) <table border="1" style="width: 100%;"> <tr> <td>Heure d'application</td> <td>11 h 10 min</td> </tr> </table>	Heure d'application	11 h 10 min	Annexe 1	#3 21 FEB. 2017
Heure d'application	11 h 10 min				
90	Point d'inspection (Inspecteur Qualité) : ☒ Épaisseur du gel coat : 18 - 22 mils ☒ Qualité de l'application du gel coat : Uniforme et esthétique.		Inspecteur  Qualité		

Section C : LAMINAGE

100	Points d'inspection (Inspecteur Qualité ou Chef d'équipe) : ☒ Donner l'approbation pour que la pièce puisse être laminée (le gel coat est « amoureux » ou « tack free »)		Inspecteur  Qualité																		
	LAMINER <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 30%;">Position</th><th style="width: 70%;">Matériel</th></tr> </thead> <tbody> <tr><td>10F</td><td>¾ oz Chopped strand MAT</td></tr> <tr><td>20F</td><td>7725 Fibre de verre</td></tr> <tr><td>30F</td><td>7725 Fibre de verre</td></tr> <tr><td>40R</td><td>7725 Fibre de verre</td></tr> <tr><td>50C</td><td>Noyau DIAB F40 1/8po</td></tr> <tr><td>60R</td><td>7725 Fibre de verre</td></tr> <tr><td>70R</td><td>7725 Fibre de verre</td></tr> <tr><td>80F</td><td>7725 Fibre de verre</td></tr> </tbody> </table>	Position	Matériel	10F	¾ oz Chopped strand MAT	20F	7725 Fibre de verre	30F	7725 Fibre de verre	40R	7725 Fibre de verre	50C	Noyau DIAB F40 1/8po	60R	7725 Fibre de verre	70R	7725 Fibre de verre	80F	7725 Fibre de verre		#23 21 FEV. 2017 #19 21 FEV. 2017
Position	Matériel																				
10F	¾ oz Chopped strand MAT																				
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60R	7725 Fibre de verre																				
70R	7725 Fibre de verre																				
80F	7725 Fibre de verre																				
110	CONSOMMABLE <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tbody> <tr><td>10F</td><td>Peel Ply</td></tr> <tr><td>20F</td><td>Release film non perforé</td></tr> <tr><td>30F</td><td>Bleeder / Breather</td></tr> <tr><td>40F</td><td>Conformateurs (Qte 9)</td></tr> <tr><td>50F</td><td>Bagging bleu</td></tr> </tbody> </table> ☐ S'assurer que tous les plis dans le tableau ont été laminés ☐ S'assurer que tous les conformateurs (Qte 9) sont en place par-dessus le Bleeder/Breather <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tbody> <tr> <td style="width: 40%;">Heure début laminage</td> <td style="width: 60%;">10 h 40 min</td> </tr> <tr> <td>Heure mise sous-vide (sac scellé)</td> <td>12 h 40 min</td> </tr> <tr> <td>Intensité du vide (25 inHg)</td> <td>29 inHg</td> </tr> </tbody> </table>	10F	Peel Ply	20F	Release film non perforé	30F	Bleeder / Breather	40F	Conformateurs (Qte 9)	50F	Bagging bleu	Heure début laminage	10 h 40 min	Heure mise sous-vide (sac scellé)	12 h 40 min	Intensité du vide (25 inHg)	29 inHg	1 GAB356 à GAB364 (Qte 9)	#26 21 FEV. 2017		
10F	Peel Ply																				
20F	Release film non perforé																				
30F	Bleeder / Breather																				
40F	Conformateurs (Qte 9)																				
50F	Bagging bleu																				
Heure début laminage	10 h 40 min																				
Heure mise sous-vide (sac scellé)	12 h 40 min																				
Intensité du vide (25 inHg)	29 inHg																				
120	LAISSER POLYMÉRISER la pièce sous vide pendant 2h		N/A																		

130	DÉMOULER et IDENTIFIER la pièce ☒ Brancher le système d'air comprimé ☐ Écrire le numéro de pièce et la date sur un collant – # de lot (date de début) – # de série ID Ex : (AAAAAMMJ) – (DAE001-XXX) ☒ Découper une pellicule de plastique protecteur bleu et la coller sur le rebord et à l'intérieur de la partie blanche (Gel coat) (Voir Annexe 1) ☒ Placer la pièce sur la table d'inspection	Annexe 1	#26 21 FEB 2017
140	Point d'inspection (inspecteur qualité) : ☒ Identifier la présence de surplus de résine ☒ Identifier la présence de bulles d'air ☒ Identifier la présence de zone sèche ☐ Identifier la présence de plis dans la fibre	MP3- 300-93- 31-058	 2017-02-20
150	Nettoyer le moule - Enlever la résine durcie tout le tour du moule avec une spatule en plastique pour ne pas endommager le moule <u>Si nécessaire</u>, nettoyer le moule avec un chiffon légèrement humecté de nettoyant à moule (PMC) NE PAS TROP APPLIQUER DE "PMC"	Spatule en plastiqu e	2017-02-20

Section D : USAGE

160	<u>PERÇAGE ET DÉCOUPE :</u> INSTALLER le Gabarit de perçage et découpe PERÇER la pièce - Perçer 4 trous avec un forêt F (Dia. .257 po) au travers des canons de perçage du Gabarit GAB350 DÉCOUPER la pièce - Retirer le Gabarit de découpe une fois terminé	GAB350 Annexe 1 Forêt F (Dia. .257 po)	#30 9 MAR 2017
170	<u>SABLAGE :</u> INSTALLER le Gabarit de finition et d'inspection GAB355 SABLER la pièce jusqu'à arriver à la dimension du Gabarit GAB355 (voir Annexe 1) RETIRER le Gabarit ÉBAVURER les arêtes vives	GAB355 Annexe 1 MP3- 300-93- 31-020	 2017-02-20

180	<u>Point d'inspection (inspecteur qualité) :</u> ☒ Plier les flanges (rebords) afin de s'assurer que le Gel coat ne craque pas (Voir Annexe 1 pour ce test) ☒ Vérifier la conformité de la pièce (Dimensions) selon le no. de dessin et selon le MPS-300-93-31-058	Annexe 1 MPS-300-93-31-058	 Inspecteur Qualité
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190	SABLER légèrement l'extérieur de la pièce Papier 120 à 320 grains	#19 13 MAR. 2017
200	NETTOYER les surfaces extérieures	#3 28 AVR. 2017

Section E : FINITION/PEINTURE

210	APPLIQUER le primer 2 couches d'environ 10 mils chacune	MPS-300-93-31-097	#3 MARS 28 AVR. 2017
220	INSTALLER les attaches mécaniques (Camlocs) (Qte 4) (voir Annexe 1) - Utiliser les pinces spécialisées (OUT951) pour insérer les Camlocs dans les trous - Utiliser l'outil spécialisé (OUT952) pour installer les rondelles de retenues	Annexe 1 Pince à Camloc (OUT951)	#19 1 MAI 2017
230	<u>Inspection finale :</u> - Validation de la finition (pinholes, surface inégale, etc...) - Vérifier s'il y a un panneau de contrôle relié à la pièce - Étamper le carré dans le coin inférieur droit de la première page - Identifier la pièce finale (voir Annexe 1) pour exemple et localisation - Poids de la pièce : <u>6.2</u> (LBS)	Annexe 1 MPS-300-93-31-058	 Inspecteur Qualité

Section F : EXPÉDITION

240	Emballer et expédier	MPS-300-93-31-084	#8 1 MAI 2017
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Work Order ID 155129

155129

Page 1

Monday, January 09, 2017 11:27:24 AM

Item ID: D350-604-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: URF 16-567 Stop ***NS2***
 Item Name: Rear Locker Extender
 Start Date: 3/31/2017 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 5/1/2017 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: **JAN 12 2017** Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2273	LU/R M								
D350-604-041	CUR								
100	Document Control	0.00							MAY 08 2017
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile and create labels per PPP D350-604-041 CHG009								
	see attachment								
110	PURCHASING	0.00							
110									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: 34972								
	Description: D350-604-041 Rear locker extender.								
	Manufacture as per dwg D2273								
	Supplier: FDC Composites Inc.								
	Certification of Conformity and process sheet required.								
	EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.								
	MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE								

Change Record

PAGE 1 OF 1

Part Number: D350-604-041

Description: REAR LOCKER EXTENDER

[illegible]